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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,636	10/19/2001	Sidney T. Smith	FLM-5169	8615

29200 7590 07/02/2007

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EXAMINER	
TRAN, THAO T	
ART UNIT	**PAPER NUMBER**
1711	

MAIL DATE	DELIVERY MODE
07/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/044,636	SMITH ET AL.	
	Examiner	Art Unit	
	Thao T. Tran	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-7,9,11-18,20,22,23,25,28,39-45,61 and 62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-7,9,11-18,20,22,23,25,28,39-45,61 and 62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/29/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on May 29, 2007 has been entered. The IDS filed on May 29, 2007 is also acknowledged.

2. Claims 3-7, 9, 11-18, 20, 22-23, 25, 28, 39-45, 61-62 are currently pending in this application. Claim 18 has been amended.

3. In light of the newly filed IDS, the allowance issued on May 18, 2007 has been withdrawn. New rejections of the claims are set forth below.

Claim Objections

4. Claims 14 and 16 are objected to because of the following informalities: line 1, "The structure of claim 10" should be changed to -- The structure of claim 18--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claims 4-7, 11, 14-18, 22-23, 25, 28, 39-42, 45, and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Akao (US Pat. 5,227,255), as evidenced by Smith et al. (US Pat. 6,361,843). The Akao reference is cited by Applicants in the IDS filed on 5/29/07.

Akao discloses a laminate comprising a polyamide resin film layer, a very low density ethylene-alpha-olefin copolymer resin layer, and an adhesive (tie) layer in between (see abstract; Fig. 1).

Fig. 1 and Example I illustrate a laminate consisting of the three layers, wherein the alpha-olefin in the ethylene-alpha-olefin copolymer is butene and the copolymer has a density of less than 0.900 g/cc, meeting the requirements of the presently claimed invention. The laminate is made by coextrusion of the layers.

The polyamide layer is 10-50 microns (0.4-1.97 mil), and the ethylene copolymer layer is about 30-150 microns (1.18-5.9 mil) (see col. 2, ln. 42-43; col. 3, ln. 34-36), significantly overlapping the presently claimed ranges. The polyamide used is nylon 6, nylon 12, nylon 66 or nylon 610 (see col. 2, ln. 30-32). As evidenced by Smith, nylon 6 and 12 are polyamide products from ring-opening reaction of lactams having 4-12 carbons; and nylon 66 and nylon 6,10 are

aliphatic polyamides, which are condensation products of diamines as recited in the claims (see col. 4, ln. 1-14).

The adhesive layer contains homopolymer resins of polyolefins or polyolefin resins modified by grafting unsaturated carboxylic acid compound (see paragraph bridging col. 3-4).

With respect to the properties of the laminate, since the laminate in Akao's has the same layers and chemical components, it would inherently have the same properties as presently claimed.

7. Claims 3-7, 9, 11-18, 20, 22-23, 25, 28, 39-45, 61-62 are rejected under 35 U.S.C. 102(e) as being anticipated by Small et al. (US Pat. 6,479,116).

Small discloses a coextruded, multilayered structure consisting of three layers, including a first exterior layer of ethylene-alpha-olefin, a tie layer of polyethylene, and a second exterior layer (see abstract; Example 1). Example 1 illustrates that the first exterior layer is made of an ethylene-hexene copolymer. The second exterior layer contains a copolyester of 1,4-cyclohexanedicarboxylic acid, 1,4-cyclohexanedimethanol, and poly(tetramethylene) glycol ether. The tie layer contains a polyethylene. The first exterior layer is about 5.7 mil thick, the tie layer about 0.7 mil, and the second exterior layer about 1.4 mil.

The ethylene-alpha-olefin in the first exterior layer has a density of about 0.86 to less than 0.916 g/cc (see col. 2, ln. 37-42), significantly overlapping the instantly claimed range.

The polyethylene in the tie layer can be a polyethylene modified with maleic anhydride (see col. 3, ln. 32-40).

The second exterior layer can also be made of polyamide (see col. 3, ln. 41-45). The polyamides used include nylon 6 and nylon 12, which are ring-opening reaction products, and nylon 66, which is a condensation product, as presently claimed.

Small further teaches that conventional additives such as slip agents may be incorporated into any of the layers (see col. 6, ln. 42-49), indicating that the layers may not include additives such as slip agents.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 3, 9, 12-13, 20, 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akao as applied to claims 4-7, 11, 14-18, 22-23, 25, 28, 39-42, 45, and 61 above, and further in view of Smith '843, or Small '116.

Akao is set forth above and incorporated herein.

Akao does not specify the polyamide, the ethylene copolymer, or the anhydride-modified polyolefin as the recited reaction products in the instant claims.

In regards to claims 9, 12-13, 20, 43-44, Smith discloses a laminate comprising an outer polyamide layer, an inner ethylene copolymer layer, and a modified polyolefin tie layer. The ethylene copolymers include ethylene-butene-1 copolymers produced using metallocene single-

site catalysts (see col. 4, ln. 57-67). The modified polyolefins include those that are grafted with carboxylic acid anhydrides such as maleic acid (see col. 5, ln. 11-13).

In regards to claims 3, 12-13, 43-44, Small discloses a coextruded, multilayered structure consisting of three layers, including a first exterior layer of ethylene-alpha-olefin, a tie layer of polyethylene, and a second exterior layer (see abstract; Example 1). Example 1 illustrates that the first exterior layer is made of an ethylene-hexene copolymer. The second exterior layer contains a copolyester of 1,4-cyclohexanedicarboxylic acid, 1,4-cyclohexanedimethanol, and poly(tetramethylene) glycol ether. The polyethylene in the tie layer can be a polyethylene modified with maleic anhydride (see col. 3, ln. 32-40).

Therefore, it would have been obvious to one of ordinary skill in the art to have employed the ethylene copolymers, modified polyolefins, and the copolyester, as taught by Smith or Small, in the laminate of Akao, because these compounds have been conventionally used in the art, and the choice of them would have been dependent upon user's preference and intended use.

Contact Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thao Tran

Thao T. Tran
Primary Examiner
Art Unit 1711

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